

# **ECC Integration Guide**

1.2

User Manual

April 2016

In Mind Cloud



## Contents

### Inhaltsverzeichnis

<b>1</b>	<b>ISS ECC Integration .....</b>	<b>2</b>
1.1	BAPI overview.....	2
1.1.1	BAPI patches.....	2
1.2	ECC RFC-User .....	4
○	Create RFC-User with Logon-Data User type 'System' (Transaction SU01) .....	4
1.2.1	Create new single role e.g. 'Z_ISS_RFC' (Transaction PFCG) .....	4
1.2.2	Change Authorization Data (without template).....	4
1.2.3	Grant full authorization for each object or restrict to e.g. company code, sales doc type, division.....	5
1.2.4	Generate and save single role .....	5
1.2.5	Edit RFC-User and add 'Z_ISS_RFC' to Roles (SU01) .....	5
1.3	ECC User for Sample Product Model.....	5
<b>2</b>	<b>Product data sync.....</b>	<b>7</b>
2.1	Included Data .....	7
2.2	Data selection.....	8
2.2.1	Product selection.....	9
2.2.2	Characteristic selection .....	10
2.2.3	Class selection .....	11
<b>3</b>	<b>Pricing Procedure Determination.....</b>	<b>12</b>
<b>4</b>	<b>Reference Distribution Channel for Condition Lookup .....</b>	<b>13</b>
<b>5</b>	<b>SSC Integration.....</b>	<b>14</b>
5.1	BAPI overview.....	14
5.1.1	Make ECC Product Model Runtime Version available.....	14

# 1 ISS ECC Integration

## 1.1 BAPI overview

ECC integration uses several BAPIs from ECC system which need to be whitelisted in the SAP Hana Cloud Connector (SCC).

	Order creation	Product data sync		SSC
		Base data	Classification data	
BAPI_CHARACT_GETDETAIL			X	
BAPI_CLASS_READ			X	
BAPI_INQUIRY_CREATEFROMDATA2	(X <sup>1,2</sup> )			
BAPI_MATERIAL_AVAILABILITY				
BAPI_MATERIAL_GETALL		X		
BAPI_MATERIAL_GET_PRODUCTHIER		X		
BAPI_QUOTATION_CREATEFROMDATA2	(X <sup>1,2</sup> )			
BAPI_SALESORDER_CREATEFROMDAT2	(X <sup>1,2</sup> )			
BAPI_TRANSACTION_COMMIT	X			
CLAF_CLASSIFICATION_OF_OBJECTS			X	
COM_CFG_READ_VARCOND_DESCR				X <sup>3</sup>
EXTRACT_DATA				X <sup>4,5</sup>
RFC_READ_TABLE		X	X	
SELECT_COUNT				X <sup>6</sup>

### 1.1.1 BAPI patches

SAP made some changes within ECC which prevents successful usage of some required BAPIs from ISS. Most likely all ECC systems running **SAP\_AP** releases >= 23 are affected. The **SAP\_AP** release info can be found in System -> Status -> Component information.

<sup>1</sup> Depending on used document types

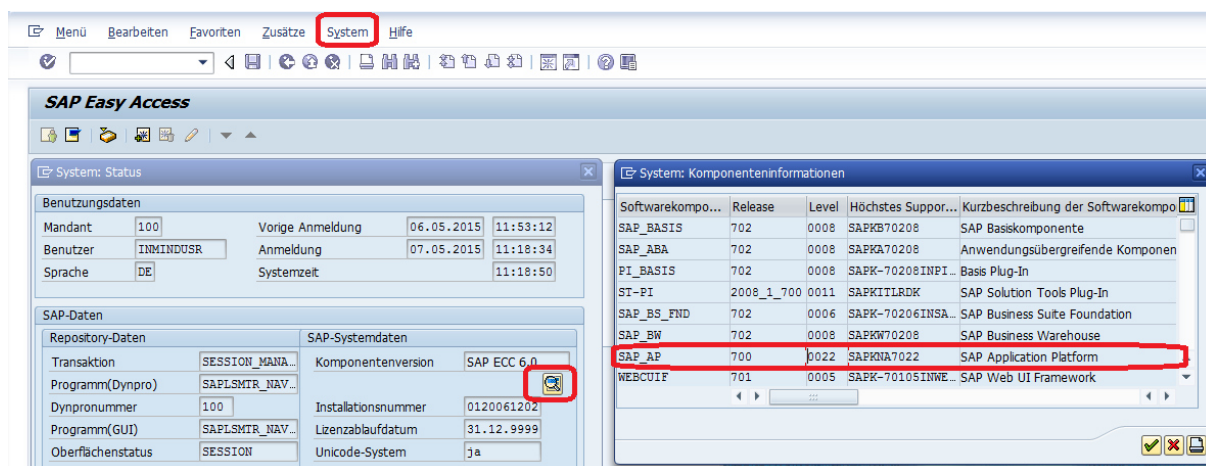
<sup>2</sup> BAPI **SD\_SALES\_DOCU\_MAINTAIN** needs to be patched in current SAP releases to enable transfer of manually entered pricing conditions

<sup>3</sup> See SAP Note [1778380](#)

<sup>4</sup> Depending on installed add-ons this could also be **/SLCC/EXTRACT\_DATA** or **/SLCE/EXTRACT\_DATA**

<sup>5</sup> Doesn't work by default in SAP\_AP releases >=23

<sup>6</sup> Doesn't work by default if support package **SAPKNA7032** is installed (sap note [1995783](#))



If the **SAP\_AP** release is  $\geq 23$  the BAPI **EXTRACT\_DATA** has to be patched:

Patch for **SAP\_AP 700 Level 26** (Lines 50 to 55)

```
IF sy-subrc <> 0.
*{ REPLACE      DEVK900005                1
*\  RAISE internal_error. "do not proceed if caller is not from VMC
*RAISE internal_error. "do not proceed if caller is not from VMC
*} REPLACE
ENDIF.
```

Patch for **SAP\_AP 700 Level 29** (Lines 35 to 44)

SAP moved the VMC check into **if\_ex\_extract\_data-check\_table\_access** so its easier to comment out this invocation

```
* check whether the access onto this table is allowed or not
get badi lr_badi.
call badi lr_badi->check_table_access
exporting
  iv_table_name   = tabname
importing
  ev_access_allowed = lv_allowed.
if lv_allowed = space.
  raise table_not_found.
endif.
```

The same patch has to be applied to BAPI **SELECT\_COUNT** if support package **SAPKNA7032** is installed (sap note [1995783](#)).

Attention - the BAPI **SD\_SALES\_DOCU\_MAINTAIN** news to be patched in current SAP releases to enable transfer of manually entered pricing conditions

Patch (region around line 1062)

```

*{ REPLACE      EC6K900372                1
*\   if ( pricngtype ca 'BCG' and call_from_crm = charx ) and
    if ( pricngtype ca 'BCG' and call_bapi = charx ) and
*} REPLACE

```

## 1.2 ECC RFC-User

ECC integration is conducted via Remote Function Calls (RFC) that are run with a distinct ECC user, who requires certain permissions.

- **Create RFC-User with Logon-Data User type 'System' (Transaction SU01)**

### 1.2.1 Create new single role e.g. 'Z\_ISS\_RFC' (Transaction PFCG)

The screenshot displays the 'Change Roles' (PFCG) transaction in SAP. The role 'Z\_ISS\_RFC' is being configured. The 'Description' field is highlighted in yellow. The 'Target System' is set to 'No destination'. The 'Created by' and 'Last Changed On/By' sections show the user 'WFICLOUD602' and the date '16.10.2015'. The 'Information About Authorization Profile' section shows the profile name 'ZISSRFC', the profile text 'Insight Selling Suite CRM RFC', and the status 'Authorization profile is generated'. The 'Maintain Authorization Data and Generate Profiles' section includes options for 'Change Authorization Data' and 'Expert Mode for Profile Generation'.

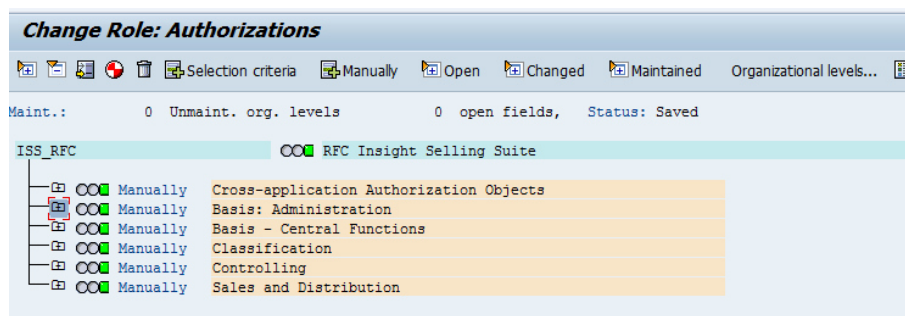
### 1.2.2 Change Authorization Data (without template)

Manually add Authorization Objects:

- for SSC product configuration
  - C\_TCLA\_BKA (configuration)
  - C\_TCLS\_BER (configuration)
  - C\_TCLS\_MNT (configuration)
  - K\_KEKO (variant prices)
  - S\_RFC (KB export)
  - S\_TABU\_DIS (KB export)
- for sales order/quote creation or simulation
  - V\_VBAK\_AAT (sales doc)
  - V\_VBAK\_VKO (sales doc)
- for replication of ERP non-configurable material master
  - M\_MATE\_STA (to pull material master, display C, K, V for STATM)

- M\_MATE\_MAN (to pull material master, display)
- C\_CABN (to pull classification data, display)

Select Edit – Insert authorizations – from profile: **S\_A.SCON**



### 1.2.3 Grant full authorization for each object or restrict to e.g. company code, sales doc type, division...

### 1.2.4 Generate and save single role

### 1.2.5 Edit RFC-User and add 'Z\_ISS\_RFC' to Roles (SU01)

For debugging of e.g. a specific BAPI call switch RFC user to 'Dialog'-Mode and add role **SAP\_BC\_DWB\_ABAPDEVELOPER** to access **SE37** with RFC user.

For changed authorizations than refer to SAP system trace to record authorization checks (**ST01**), cf. [http://help.sap.com/saphelp\\_nw73ehp1/helpdata/en/92/7ac87d293a47d8a17368c9f45661f4/content.htm](http://help.sap.com/saphelp_nw73ehp1/helpdata/en/92/7ac87d293a47d8a17368c9f45661f4/content.htm).

## 1.3 ECC User for Sample Product Model

For sample product modelling and testing a ECC user is required with the following permissions:

Roles assigned to User:

**SAP\_LO\_VC\_MAINTAIN**

**SAP\_LO\_MD\_BOM\_MAINTAIN**

**SAP\_CA\_CL\_MAINTAIN**

Plus, usage of transactions:

**MM01/MM02/MM03**

**VK11/VK12/VK13**

**VK30**

**VA01/VA02/VA03**

**VA21/VA22/VA23****SE37** (to execute function module **ECC\_SCE\_REQUEST**)

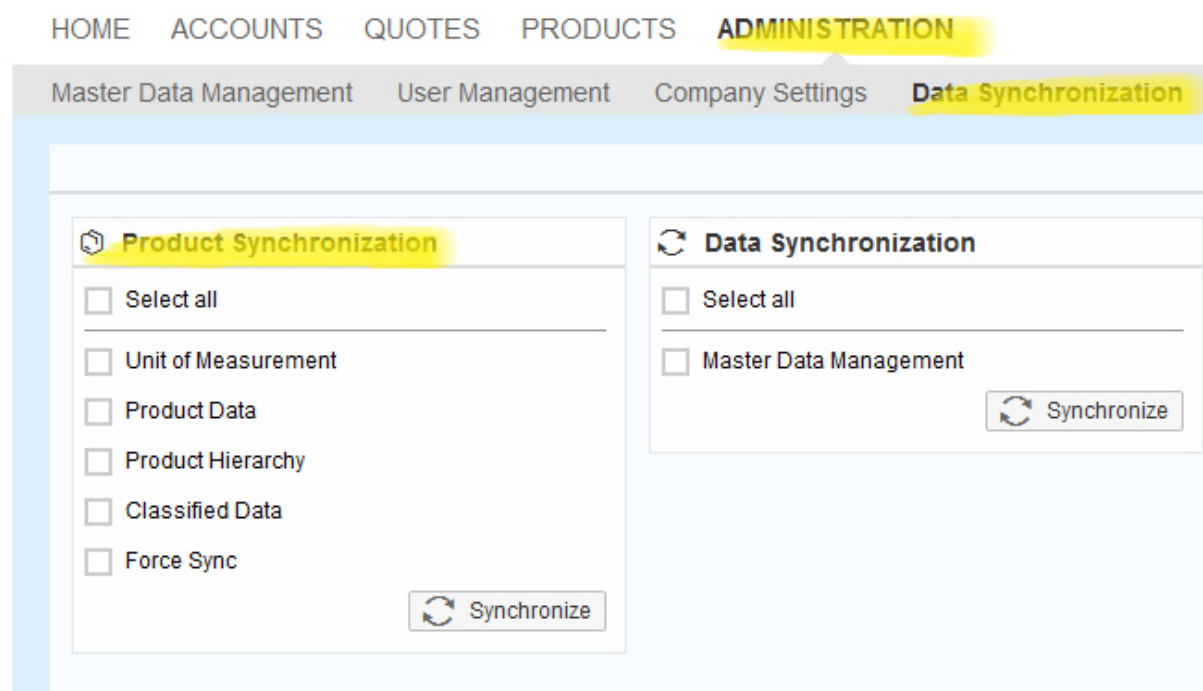


## 2 Product data sync

In release 1604 ISS introduced support for pulling product data from ECC. This includes units of measurement, basic product data and optionally also product classification. The product and classification data to pull can be filtered by maintaining database views in the ECC system. Once the initial sync is performed only changed data will be synced. Changes are detected based on the last change date in ECC. If this delta based approach does not work a full sync can be forced. All data is imported into a separate namespace which is derived from the destination **ECC\_RFC\_DESTINATION** and follows the pattern

`http://<system>/<client>`

where **<system>** is populated from **jco.client.ashost** or **jco.client.mshost** and **<client>** is populated from **jco.client.client**. Note that no checks with respect to existing data are performed which might lead to duplicated data for instance if units of measurement are predefined in ISS customizing or imported from C4C. Data imported from ECC will nevertheless only reference other data within the separate namespace. To avoid confusion units of measurement shouldn't be maintained in base customizing and should always be synchronized from ECC first. Afterwards the units of measurement can also be pulled from C4C which won't overwrite existing data and might add additional units of measurement not maintained in ECC.



### 2.1 Included Data

Unit of measurement

- ✓ Short text (imported as label) in all maintained languages

Product

- ✓ Short text (imported as label) in all maintained languages
- ✓ Base texts (imported as description) in all maintained languages
- ✓ Unit of measurement
- ✓ Product hierarchy (imported as product category)
- ✓ Deletion flag (mapped to product status)

- ✓ Material number (mapped to objectERPid)
- ✓ Last change date

#### Product Hierarchy

- ✓ Short text (imported as label) in all maintained languages
- ✓ Hierarchy id mapped to objectERPid

#### Class

- ✓ Short text (imported as label) in all maintained languages
- ✓ Long text (imported as description) in all maintained languages
- ✓ Class name mapped to objectName
- ✓ Last change date

#### Characteristic

- ✓ Short text (imported as label) in all maintained languages
- ✓ Characteristic name mapped to objectName
- ✓ Last change date

#### Characteristic value

- ✓ Short text (imported as label) in all maintained languages
- ✓ Characteristic value mapped to objectName

#### Limitations

- only hierarchy nodes referenced by products are fetched
- only material classes (class type 001) are taken into account during product sync
- no relationship between hierarchy nodes is maintained so hierarchy tree is not available
- no material sales texts are fetched
- no material sales data is fetched
- no long texts fetched for characteristic values
- no units fetched for characteristics
- no class hierarchy information is fetched
- inherited characteristics are not taken into account during product sync
- time and date characteristics are fetched as string values only

## 2.2 Data selection

ISS uses databases views in ECC to determine which data should be pulled. Currently products, classes and characteristics can be filtered by this mechanism. If only product data should be fetched maintaining the product view is sufficient otherwise all views have to be maintained. Note that the database filters might return duplicated records since ECC does not support **DISTINCT** concept when creating views. This is currently handled on ISS side where duplicates are eliminated. Database views in ECC can be created using transaction **SE11**.

### 2.2.1 Product selection

Using **SE11** maintain a new database view called **Z\_ISS\_MAT** with columns **MANDT**, **MATNR** and **LAEDA** based on table **MARA**. If the filtering needs access to other data also put the required tables into the view definition.

Database view

Z\_ISS\_MAT

Active

Short Description

Z table iss materials

Attributes

Table/Join Conditions

View Flds

Selection Conditions

Maint.Status

<

Depending on the filter conditions the view might need to perform a join on different tables and a set of selection conditions (screenshots below shows the setup for a filter which only returns materials created by users beginning with the prefix **WFTCLOUD6** which are to be sold in sales org **1000** and distribution channel **10**).

Database view

Z\_ISS\_MAT

Active

Short Description

Z table iss materials

Attributes

Table/Join Conditions

View Flds

Selection Conditions

Maint.Status

Tables

MARA

MVKE

Join conditions

Table	Field name	=	Table	Field name
MARA	MATNR	=	MVKE	MATNR
MARA	MANDT	=	MVKE	MANDT

Database view

Z\_ISS\_MAT

Active

Short Description

Z table iss materials

Attributes

Table/Join Conditions

View Flds

Selection Conditions

Maint.Status

Table fields

Table	Field name	Operator	Comparison Value	AND/...
<div>MVKE</div>	<div>VKORG</div>	EQ	'1000'	AND
<div>MVKE</div>	<div>VTWEG</div>	EQ	'10'	AND
<div>MARA</div>	<div>ERNAM</div>	LIKE	'WFTCLOUD6%'	



### 2.2.3 Class selection

Using **SE11** maintain a new database view called **Z\_ISS\_CLASSES** with columns **MANDT**, **CLINT**, **KLART**, **CLASS** and **VDATU** based on table **KLAH**. If the filtering needs access to other data also put the required tables into the view definition.

Database view **Z\_ISS\_CLASSES** Active

Short Description **Z\_ISS\_CLASSES**

Attributes Table/Join Conditions **View Flds** Selection Conditions Maint.Status

Table fields

View field	M...	DTyp	Length	Short description
<b>MANDT</b>	<input type="checkbox"/>	CLNT	3	Client
<b>CLINT</b>	<input type="checkbox"/>	NUMC	10	Internal Class Number
<b>KLART</b>	<input type="checkbox"/>	CHAR	3	Class Type
<b>CLASS</b>	<input type="checkbox"/>	CHAR	18	Class number
<b>VDATU</b>	<input type="checkbox"/>	DATS	8	Changed On

Depending on the filter conditions the view might need to perform a join on different tables and a set of selection conditions (screenshots below shows the setup for a filter which only returns classes created by users beginning with the prefix **WFTCLOUD6** and with class type **001**).

Database view **Z\_ISS\_CLASSES** Active

Short Description **Z\_ISS\_CLASSES**

Attributes **Table/Join Conditions** View Flds Selection Conditions Maint.Status

Tables

**KLAH**

Join conditions

Table	Field name	=	Table	Field name

Database view **Z\_ISS\_CLASSES** Active

Short Description **Z\_ISS\_CLASSES**

Attributes Table/Join Conditions View Flds **Selection Conditions** Maint.Status

Table fields

Table	Field name	Operator	Comparison Value	AND/...
<b>KLAH</b>	<b>ANAME</b>	LIKE	'WFTCLOUD6%'	AND
<b>KLAH</b>	<b>KLART</b>	EQ	'001'	

### 3 Pricing Procedure Determination

To determine which access sequence for pricing procedure is active in ECC double-check pricing procedure for required combination of sales area data in sales document.

Create Sales Order (**VA01**) and select sales area data. Then display sales document header data and find pricing procedure that is active in ECC.

The screenshot shows two SAP screens for displaying a standard order.

**Display Standard Order 15136: Overview**

Standard Order	15136	Net value	6.835,20	EUR
Sold-To Party	1000	Mining Inc. / Sunny vile 2 / D-92101 San Diego-California		
Ship-To Party	1000	Mining Inc. / Sunny vile 2 / D-92101 San Diego-California		
PO Number	P123	PO date	30.10.2015	

Navigation tabs: Sales, Item overview, Item detail, Ordering party, Procurement, Shipping, Reason for rejection.

**Display Standard Order 15136: Header Data**

Standard Order	15136	Purchase order no.	P123
Sold-to party	1000	Mining Inc. / Sunny vile 2 / D-92101 San Diego-California	

Navigation tabs: Sales, Shipping, Billing Document, Accounting, Conditions, Account assignment, Partners, Texts, Order Data, Status, Additional data A.

Order Type	OR	Standard Order	Document date	30.10.2015
Sales area data	1000 / 10 / 00	Germany Frankfurt, Final customer sales, Cross-division		
Sales office	1010	Office Hamburg	Created by	WFTCLOUDRPC0
Sales group	110	Gr. H1 Mr. Thomas	Created on	30.10.2015
Version		Guarantee		
Order reason				
Delivery time				

**Pricing and Statistics**

Doc. Currency	EUR	/	1,00000	Pricing date	30.10.2015
Pric. procedure	RVAA01	Standard	Customer group	Industrial customers	
Price List	Industry	Usage			
Price group	Bulk buyer	Sales district	DE0010	Northern Germ...	

Modify pricing procedure determination via ECC customizing **V/07**.







## 4 Reference Distribution Channel for Condition Lookup

Price condition lookup in ECC is done via keys 'Sales Organization and 'Distribution Channel'. Maintained conditions can be expanded to multiple Distribution Channels by defining a reference Distribution Channel.

Goto 'Customizing (SPRO) – Sales and Distribution – Master Data – Define Common Distribution Channels' and maintain reference distribution channel for condition.

**Display View "Org.Unit: Dist.Channel per Sales Org.- Assign Master Dat**

SOrg.	DChl	Name	DCh-Conds	Name	DCh-Cust/Mt	Name
0001	01	Direct Sales	01	Direct Sales	01	Direct Sales
0001	C1	Direct Sales	01	Direct Sales	01	Direct Sales
0005	01	Direct Sales	01	Direct Sales	01	Direct Sales
0005	10	Final customer sales	10	Final customer sales	10	Final customer sales
0005	12	Sold for resale	12	Sold for resale	12	Sold for resale
0005	14	Service	14	Service	14	Service
0005	16	Factory sales	16	Factory sales	16	Factory sales
0005	A2		12	Sold for resale	12	Sold for resale
0006	01	Direct Sales	01	Direct Sales	01	Direct Sales
0006	10	Final customer sales	10	Final customer sales	10	Final customer sales
0006	12	Sold for resale	12	Sold for resale	12	Sold for resale
0006	14	Service	10	Final customer sales	14	Service
0006	A2		12	Sold for resale	12	Sold for resale
0007	01	Direct Sales	01	Direct Sales	01	Direct Sales
0007	10	Final customer sales	10	Final customer sales	10	Final customer sales
0007	12	Sold for resale	12	Sold for resale	12	Sold for resale

Navigation: < > [Page 1 of 1]

## 5 SSC Integration




### 5.1 BAPI overview

<b>ECC_SCE_EXTRACT</b>	copy all kbs found in <b>SCEKB</b> into <b>COMM_CFGKB</b>
<b>ECC_SCE_REQUEST</b>	copy a specific kb from <b>SCEKB</b> into <b>COMM_CFGKB</b>
<b>COM_CFG_DB_DELETE_KB</b>	delete a specific kb from <b>COMM_CFGKB</b>

#### 5.1.1 Make ECC Product Model Runtime Version available

Goto **SE37** and open function module **ECC\_SCE\_REQUEST**. Enter knowledge base name and version and execute.

**Test Function Module: Initial Screen**

  Debugging  Test data directory

Test for function group **CFG\_ERP\_DB\_TRANS**  
Function module **ECC\_SCE\_REQUEST**  
Uppercase/Lowercase ☐

Import parameters	Value
IT_KBNAME	PROF_ROUTER
IT_KBVERSION	[4.0]